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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,042	03/30/2001	Dennis Bushmitch	MATI-201US	8441

23122 7590 04/05/2005

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EXAMINER	
LE, VU	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/822,042	BUSHMITCH ET AL.	
	Examiner	Art Unit	
	Vu Le	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 January 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,8 and 10-14* is/are rejected.

7)☒ Claim(s) *2-7 and 9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 8, 10-14 are rejected under 35 U.S.C. 102(a) as being unpatentable by Erramilli et al, "Experimental Queueing Analysis with Long-Range Dependent Packet Traffic", IEEE/ACM Transactions On Networking, vol. 4, no. 2, pp. 209-223, April 1996.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Re claim 1, Erramilli discloses a method for transmitting a data stream that exhibits self-similarity through a digital communication network (see Abstract, para I: "Introduction", note: self-similarity is expressed in terms of long-range dependent process or LRD in the article), comprising the steps of:

(a) receiving a plurality of blocks in the data stream, each block including a plurality of data values (see para I, II & III: respectively, "Introduction" and "LRD In

Actual Network Traffic" and "Experimenting With Measured Ethernet Traffic Traces"; In these paragraphs, data in packets or blocks which exhibit LRD or self-similarity properties are received or collected in a LAN, WAN, SS7 network, or the like); and (b) reordering the blocks according to a predetermined deterministic scheme to reduce the self-similarity of the data stream (see para II, section B: Two Experiments with Shuffled Data"; In this paragraph, data blocks are reordered or shuffled to eliminate the effect of LRD or self-similarity).

Erramilli does not specifically disclose transmitting the reordered blocks through the digital communications network to a receiving node. Rather, Erramilli generally discloses data blocks being transmitted over a network. However, one skilled in the art would have found it obvious that transmission data blocks over the network would have encompassed transmitting shuffled blocks over the network to the receiving node.

Erramilli does not specifically disclose reordering the blocks again, at the receiving node, to reverse the predetermined deterministic scheme and regenerate the data stream. However, one skilled in the art would have found it obvious that data blocks that have been shuffled and would have been transmitted through the network to the receiving node would have necessitated reversing the shuffling or reordering process in order to successfully reproduce the original data blocks.

Re claims 8, 11-14, the limitations as claimed have been analyzed and rejected w/r to claim 1. Throughout the Erramilli article, respective means for data transmission over a digital communications network having the characteristics of claim 1 are substantially discussed. The means comprising computers within the network

implementing algorithms to analyze their impact in reducing LRD or self-similarity characteristics. Hence, computer program instructions are necessitated and impliedly taught.

Re claim 10, the digital communications network of claim 8, further comprising a plurality of transmission nodes in the data communications network, each transmission node having a queuing buffer, wherein each queuing buffer has a predetermined memory size sufficient only to queue data that does not exhibit self-similarity through the network. (See para III, section A: "Three Simple Queueing Experiments").

Allowable Subject Matter

3. Claims 2-7, 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fail to anticipate or obviate the following limitations as claimed:

As recited in claim 2, "...wherein the predetermined deterministic scheme reorders a predetermined number of blocks, N_{MB} corresponding to a macro-block, the predetermined number being defined as $N_{MB} = S (R+1)$ where S is an integer skip number defining a number of input blocks that are skipped between successive blocks of the reordered data starting from block D in the macro-block and R is an integer restart number defining a number of skip operations to be performed before restarting the skip operations from block D+1 in the macro-block, where D is an integer";

As recited in claim 6, "wherein the blocks of data are grouped in macro-blocks and the predetermined deterministic scheme is applied to all of the blocks in each macro-block individually";

As recited in claim 9, "wherein the shuffling buffer includes: a skip register which holds an integer skip value, S; and a restart register which holds an integer restart value, R; wherein the predetermined deterministic scheme reorders a predetermined number of blocks, N_{MB} corresponding to a macro-block, the predetermined number being defined as $N_{MB}=S\ (R+1)$ where S is an integer skip number defining a number of input blocks that are skipped between successive blocks of the reordered data starting from block D in the macro-block and R is an integer restart number defining a number of skip operations to be performed before restarting the skip operations from block D+1 in the macro-block, where D is an integer".

Contact

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Le whose telephone number is (571) 272-7332. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. Customer Service can be reached at (571) 272-2600. The fax number for the organization where this application or proceeding is assigned is (571) 273-7332.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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